wooden frame supports the plates, and a catgut line is fastened to its centre, then passes over a brass pulley, and is attached to a leaden counterpoise, which just balances it. Thus it will be seen that the plates can be depressed or raised, and the light correspondingly regulated to the utmost nicety. To give an idea of how the light can be reduced, I measured the 13 mag. *comes* to P. I. 145 *Piscium* with ease, with bright field illumination (the telescope is a 10-inch Calver). The lamp over the books was very beautiful, and pleasant to read by; and an abundant length of flexible silk-covered wire enabled it to be carried about anywhere in the observatory, for reading off the circles of equatorial, clock dial, &c. A spare battery is in reserve, in case the light diminishes after long use, but the worked battery is as good as ever after a few minutes' rest. It is necessary to be careful about the carbon connection; but a slip of platinum foil next the carbon, and a slip of brass between it and clamp screw, makes all safe against oxidation. It is almost unnecessary to add that I am now converting my own from oil to electricity, and earnestly advise others to do the same.

Leicester: 1882, *Nov.* 1.

On a Probable Assyrian Transit of Venus. By the Rev. S. J. Johnson, M.A.

That a solar spot 1′ of arc in diameter may be perceived by unaided vision will readily be granted. Consequently little notice need be taken of M. Arago's remark that "naked-eye observers of the transit of 1761 made more use of their imagination than of their eyes," especially as distinct mention is made of *Venus* being so seen by Mr. Holland at Quebec in 1769, and at Maros Vasarhely and other places in 1874. Conjunctions of *Venus* and the Sun are noted down in Stoffler's Ephemerides at the time of the transits of 1518 and 1526; but even if the idea of one had occurred, his tables show too great a distance between the planet and the Sun. As to the solar spot said to have been seen by Averrhoës in 1161, when *Venus* was in conjunction, it may be remarked that in the list of the transits given in Fergusson's Astronomy from La Lande's tables, only a single transit seems to have occurred in the twelfth century, in 1153. There is, however, one instance in very ancient times which may turn out to be a transit. A broken Assyrian tablet, just mentioned in a note of two lines by Rev. Mr. Sayce in "Nature" some years back, may perhaps deserve more attention than it has received. As the tablet is concerned with the planet *Venus*, and as the following succession of broken lines occurs, "the planet *Venus*"—"it passed across"—"the Sun"—"across the face of the Sun," it naturally occurs to try to fill up each hiatus. But it seems very difficult to explain the last sentence otherwise than by supposing that an actual transit is recorded, which, it seems,

must be before the sixteenth century B.C. It reads like a case of an *entire* transit visible in Babylonia.

Melplash Vicarage, Bridport:
1882, *Nov.* 7.

The Solar Eclipse of 1882, *May* 17, *observed at Meerut, India.*

By Major Alex. Burton-Brown, R.A.

On the morning of May 17, 1882, a party of officers, under my supervision, set to work to construct a small observatory of laths, and arranged our telescope on a fixed pillar, so that the Sun might be projected on a screen of paper forming a plane perpendicular to the axis of the telescope, and moving with it, all other light being shut off from above except what passed through the telescope by means of another upper screen attached thereto.

The telescope was a refractor, with a fine object-glass of $2\frac{3}{4}$ in., and a power of 50. The projected image was 6 inches in diameter.

First contact was very clearly marked on the screen at $11^h\ 58^m\ 36\frac{1}{2}^s$ local time, but the exact moment of maximum eclipse cannot be certainly stated, but is believed to have been at about $14^h\ 7^m$. A sketch was made when the Moon was just commencing to occult the large group of Sun spots, the largest of which were nearly as black as the Moon; far darker, by comparison, than I have ever noticed them in former eclipses. A few minutes after we clearly noticed the retrogression of the shadow.

The rugged edge of the Moon was seen to great perfection, as also first contact with great accuracy on the paper screen; far more so than by direct-vision observers with dark glasses. The occultation of the spots and the comparative degree of darkness between them and the Moon were most clearly noticed. Very faint clouds were noticed, but not in the vicinity of the Sun, at the commencement of the eclipse. As the eclipse progressed, they increased and approached the Sun apparently, and about 2 o'clock a few passed over the Sun. As the eclipse passed off, so the clouds receded and disappeared entirely before the eclipse terminated.

The maximum temperature in the sun was $159\frac{1}{2}^\circ$ F. The temperature in the shade was 102° F. at noon, and 93° F. at 2 p.m., showing a fall of at least 9° F. during the eclipse.

I would observe that in any place where a clear bright sky was obtainable, and where the sun was at a considerable altitude during the Transit of *Venus*, unscientific observers might do good service with 3-in. or 4-in. refractors and powers of 35 to 60, by marking the track of the planet on a 6 or 8-inch image projected on paper—say every quarter of an hour. These, when compared and tabulated, would form a useful auxiliary to the regular observations.